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ABSTRACT

The research study uses available data from the Comprehensive Career Education Model (CCEM) to examine relationships between diffusion factors and the acceptance of the developed curriculum units. A brief overview of the project is provided with recommendations for designing linkages among curriculum development agencies. The data came primarily from documentary records, evaluation reports, and teacher questionnaire responses, which provide the basis for analyses of the teacher acceptance of the curriculum units. Forty-one field tested career education curriculum units formed the focus for the research. The report examines the following diffusion-related variables: use of a temporary system as a device for linking a prime contractor with local education agencies, and teacher acceptance of the curriculum units in the field-test sites. Several independent variables were related to the teacher acceptance of the curriculum units: (1) teacher characteristics (race, sex, education level, and years in teaching); (2) degree of curriculum unit revision; (3) unit development site location; (4) infusibility of the concepts and the units; and (5) perceived effect of teaching the unit on teacher interaction with the class and the community. Appended are: statistical tables showing the data and data analysis, questions used to measure the variables associated with teacher acceptance, a glossary, and a bibliography. (Author/MW)

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Diffusion Factors Associated with the Comprehensive Career Education Model Development and Acceptance of the Curriculum Units in Field Test Sites

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- Operating information systems and services
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Research and Development Series No. 96

DIFFUSION FACTORS ASSOCIATED WITH THE COMPREHENSIVE CAREER EDUCATION MODEL DEVELOPMENT AND ACCEPTANCE OF THE CURRICULUM UNITS IN FIELD TEST SITES

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of career education. A second major dimension is the central focus of career education. It seeks to integrate and direct education around individual career development. Thus education should become an integrated, cumulative series of learning experiences having as its objective "the development of knowledge and of special and general abilities to help individuals interact with the economic sector."[3] A related emphasis is the determination that every student shall leave an educational institution with a marketable skill. A third dimension is the comprehensiveness of career education. It is a total program for all students regardless of their backgrounds or aspirations. Fourthly, career education recognizes the primacy of the individual in a democratic society. It seeks to help each individual achieve increased power to make relevant decisions about his life and increased skill in the performance of his life roles.[4] These roles are not limited to the economic sphere. They also include the home, community, avocational, and religious aspects of life. Fifthly, career education is an open continuing system allowing individuals to leave and enter educational and training programs at any point in their lives. Occupational patterns change rapidly and in an unpredictable manner in our technologically oriented society. Many individuals desire to switch careers in midlife. Career education places a heavy emphasis upon adult and continuing education. A related dimension is the concern for follow-up programs operated by the educational institutions involved in career education. Job placement and continuing program improvement through evaluation and feedback must be incorporated into a truly comprehensive program focused upon careers. To summarize, career education is an effort to reform the entire spectrum of American education. Its objective is to insure that all students will be equipped with the attitudes, occupational information, marketable skills, and decision-making abilities needed to make appropriate career decisions.

History of the CCEM Project

The Comprehensive Career Education Model (CCEM) project has been undertaken as one viable alternative which directly addresses the problem of helping students to achieve self-fulfillment in a realistic, measurable way. The third report of the National Advisory Council on Vocational Education, July 1970, also identified this alternative by calling for a complete reform of the American educational system to include career education. The first movement toward actually implementing career education in public schools emanated from the U.S. Office of Education (USOE). Commissioner Marland (1971) expressed the view that "all educational experiences – curriculum, instruction, counseling, etc., – should be geared to preparation for economic independence, personal fulfillment, and an appreciation for the dignity of work." In this project, the U.S. Office of Education has chosen to examine the potential of a career-oriented curriculum for making education more relevant for today's young people.

Early in 1971, the National Center for Educational Research and Development (NCERD), and the Bureau of Adult, Vocational and Technical Education (BAVTE) of the U.S. Office of Education

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[3]"Forward Plan for Career Education Research and Development," a paper prepared by the Career Development Task Force, NIE, April 1973, p. ES-2.

[4]Keith Goldhammer and Robert E. Taylor, *Career Education: Perspective and Promise*, Charles Merrill, 1972, 296 pp.

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cooperatively initiated plans for a career education model. A decision to establish four independently developed experimental models was made by the U.S. Office of Education. These four models would create a career-oriented program that would be (1) school-based; (2) employer-based; (3) home/community based; and (4) rural/residential-based.

CVE as Prime Contractor

In May 1971, The Center for Vocational Education at The Ohio State University submitted a proposal to bid for the role of project manager for the school-based model. Objectives of the project were to develop, test, and install a comprehensive career education system by structuring the existing educational program around career education objectives. An initial project grant of $2 million was awarded to The Center for Vocational Education (CVE) on June 15, 1971. Project guidelines issued by USOE stipulated that the CCEM was to be developed in one or more urban or semi-urban local education agencies (LEAs) and that the project was to be implemented through a research and engineering effort directed by CVE.

Selection of Sites

The U.S. Office of Education outlined the following six-stage process for selection of local education agency (LEA) project sites for the school-based model:

1. Identification of LEAs that had pioneered in developing elements of the CCEM;

2. Collection of data on the identified LEAs and selection of the twelve most advanced in career education programs;

3. Orientation of prospective LEAs to the school-based CCEM, to proposed strategies, and to the LEA selection process;

4. Solicitation of proposals from LEAs desiring to subcontract as model sites;

5. LEA visitation by a USOE review team to verify data and obtain additional information about LEA capabilities; and

6. Nomination by a review team of two or three LEAs for participation in the program.

In order to secure a list of school districts meeting the established criteria, the USOE contacted its regional directors, the BAVTE, and state directors of vocational education. The names of other LEAs that had inquired about participating in this project were added to this list.

The initial list contained the names of fifty-three school districts as potential LEA project sites. This number was reduced to thirty-seven in the first screening process. The U.S. Office of Education eliminated those districts lacking necessary components. Those located in rural areas also were taken from the list since CCEM guidelines specified that participating LEAs must be located in urban or semi-urban areas.

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A second screening reduced the number of candidates to thirteen districts having the strongest and most comprehensive existing programs of career education from kindergarten through twelfth grade. Included in the extensive set of selection criteria were: (1) innovative programs; (2) curricula, including various vocational and work-related programs; (3) business, industry, and public agency cooperation; (4) resources and support activities, such as in-service research and development; and (5) district commitment to the project.

Two visitation teams were selected by USOE to visit the twelve LEAs that had submitted proposals for subcontracts. After visiting their assigned sites, the evaluation teams met in Washington, D.C. with recommendations for the final selections. On August 9, 1971, USOE selected six sites.

A meeting was held September 1-3, 1971, at CVE with representatives attending from the selected LEAs. The purpose was for initial subcontracting talks and discussion of staff needs. LEA personnel were invited to attend an orientation session at CVE from September 22-24 for an explanation of the project tasks that lay ahead.

Documentation of Activities

One of the requirements imposed on CVE as prime contractor for CCEM was the establishment and maintenance of a documentation file. The documentation file was set up to be a very comprehensive filing system that would contain a copy of all records initiated in CCEM project functions in addition to other special areas.

Each of the six sites was charged with the responsibility of placing in the documentation file a record of all project activities which took place at that particular site. A copy of each document, telephone memo, piece of correspondence, etc., that originated at CVE in Columbus also was placed in the documentation file. A daily/weekly log was submitted by the site team director for each site. This section of documentation was not kept up to date by all sites.

Role of Technical Assistance Team

Each LEA site was provided a CVE resident project team to offer technical assistance, on-site consultation, and to serve as a direct liaison with CVE. This resident team was identified as the site staff, and was headed by a site team director.

As the main communication link between LEA and CVE, it was necessary for the site team director to maintain a good working relationship with the LEA project director and his staff. The role of the site team director represents the type of marginal role discussed by Havelock (1971) since it requires him to relate to two different agencies.

Development of the Career Education Matrix

Career education has been defined by the CVE CCEM staff and the six LEAs participating in the development of the school-based CE model as a "comprehensive program focused on

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careers."[5] This definition was operationalized through the development of a matrix of program goals.[6] The matrix thus served as an "operational tool capable of providing a frame of reference for defining and evaluating curriculum and guidance units necessary for the delivery of career education."[7] It has provided a means to select those units and evaluate their effectiveness once they have been installed. Moreover, the matrix has provided a means of articulating effort among participating LEAs and facilitated integration of the CCEM with their LEA programs.[8]

The matrix was developed using a modified Delphi technique by CVE in conjunction with the six LEAs participating in the CCEM program.[9] A minimum of ten classroom teachers were required to serve on a matrix development committee at each LEA.[10] Authoritative theories of human growth and development, curriculum development, guidance, social development, career development, and taxonomies of educational objectives were examined. As a result of this examination, eight principal elements of CE were identified. These included: career awareness, self awareness, appreciations and attitudes, decision-making skills, economic awareness, skill awareness and beginning competence, employability skills, and educational awareness.[11] A matrix of 104 cells was developed by arraying each of these eight elements against thirteen grades, K through twelve.

Development of the Curriculum Units

The six local education agencies participating in the development of the school-based model represented those sites where progress was being made in career education. Therefore, it was appropriate to start the unit development activity by screening existing practices in the six LEAs for promising units. Units identified as strictly vocational education units or strictly academic units were excluded. Of the approximately 1,000 in-place units in the LEAs, 269 were selected for further study. Additional validation for the in-place units provided by the LEAs reduced the number of potentially useful units to 179.

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[5]"Developers Anticipate Making Many Products Available Soon," D & R Report, Vol. 2, No. 6, Sept.-Oct. 1973, pp. 17-18.

[6]Ibid, p. 18.

[7]"Developmental Program Goals for the Comprehensive Career Education Model: Preliminary Edition," The Center for Vocational Education, The Ohio State University, August 1972, p. 3.

[8]Ibid, p. 3.

[9]Ibid, p. 12.

[10]"The Comprehensive Career Education Model, Progress Report," The Center for Vocational Education, The Ohio State University, July 1972.

[11]"Developers Anticipate Making Many Products Available Soon," D & R Report, Vol. 2, No. 6, Sept.-Oct. 1973, pp. 17-18.

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Concurrent with the LEA based effort, a national search of nonconsumer oil career education materials was in progress. The search was subcontracted to the Palo Alto Educational Systems, Inc. (PAES) of Scottsdale, Arizona. A total of 736 curriculum units were identified in this search.

The combined total of 915 units was subjected to a series of workshops that included participants from the six LEAs, CCEM, and CVE. The units were rated according to degree of development, subject area(s) covered, and quality. By mid February 1972, 105 units had been selected for modification and potential installation in the LEAs during the 1972-73 school year. Contracts were negotiated with the LEAs to refine and pilot test specific units during the spring and summer months. This report addresses only the first forty-five units that were developed and field tested. The remaining units were on a different time table.

The units began to arrive at CVE in May 1972 following their pilot test in the LEAs. Each of the forty-five curriculum units was reviewed by CCEM staff, recycled to the LEA where appropriate, and/or assigned to an editorial review board. This board included professional editors from the publisher, evaluators from the CCEM project, and curriculum developers. They edited the units, keeping in mind such considerations as length of the lessons for the targeted grade level, accuracy of facts, the existence of sex or race bias, and appropriateness of the resource materials. At the completion of this review the units were sent to the Government Printing Office; then they were packaged for the field test sites.

Conduct of the Field Test

The primary purpose of the field tests was to supply data to the project staff to assist with the revision of the curriculum units. A secondary purpose was to identify those units that were sufficiently effective in their first trial to merit further assessment by NIE.[12] The tests were run in the winter of 1972 and in the spring of 1973 in a randomly chosen cross-section of twenty-four to thirty-six classrooms (for each unit tested) in three or more representative cities. Table A-1 shows the locations of the field test for each of the forty-one curriculum units studied.[13] A seventh site, San Diego, California, was added due to insufficient availability of classrooms in the other sites to accommodate the evaluation design. The sites are coded in Table A-1 to protect the anonymity of the data sources. The numbers of the sites do not correspond to the order of the letters coded for sites in other tables in this report. Likewise the units are coded in a random order.

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[12]This information was taken from the fourth draft of the field trial report dated May 14, 1973 prepared by the external evaluator, The Institute for Educational Development.

[13]Three of the forty-five units were not used in this study because a preliminary version of the field test instrument was used, and the results were not comparable. Teacher responses to one unit were not available.

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Characteristics of the Participating Local Education Agencies

The following brief description of the six local education agency demographics will allow the reader to become familiar with the settings that the sites represent. The number of schools and students in the project indicate the degree of involvement experienced by each site. No attempt has been made to compare sites with each other due to the very limited data in each site. These are the sites where the curriculum units were developed and field tested.

Site A

This site is located in an industrial city with a population approaching 95,000. The community has been described as being very volatile and one that cannot be manipulated. This industrial community is highly organized, with the unions having a great deal of control.

A school board member vote of four-three enabled this site to participate in the GEEM project. All thirty-four schools in the system are involved in the GEEM project. The system consists of twenty-seven elementary schools, six junior high schools, and two high schools.

Site B

The second site is a city with a population of about 80,000. The community is strongly supportive of the work ethic and is extensively involved in [illegible] due to its religious and social values. Employment in sales, clerical, or skilled work accounts for about 40 percent. Blue collar or factory work is about 25 percent, and professional or managerial is about 15 percent.

The school system has all twenty-seven schools involved in the GEEM project. There are twenty elementary schools, five junior high schools, and two high schools.

The student population served is approximately 24,000. The racial proportion is approximately 80 percent white, 10 percent Mexican-American, and 10 percent other.

Site C

The third site is a subdistrict of a city school system. The population of the subdistrict is approximately 50,000. The population is highly mobile and the student body has been described as a racial and ethnic melting pot.

Factory or blue collar jobs account for 30 percent employment; sales, clerical, technical, or other skilled professions make up another 35 percent. Another 20 percent are on welfare and 10 percent are Oriental.

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Site B

This site is one administrative unit that covers one district. The population in the area is 90 percent white, with a minority of 7 percent Mexican American and three point Spanish surname.

Farming or blue collar workers account for 40 percent, and the same number are in sales, clerical, craft, retail, or skilled positions. Managerial jobs account for 9 percent and public assistance 5 percent.

This site is not a very diverse community, although the area is served by an area vocational center. Eight elementary, two junior high schools, and one high school make up the administrative area they serve approximately 12,000 students. More than 90 percent of the student population are white, and about 8 percent are Mexican American and three point Spanish surname.

Site E

This site is located in a city with a population of about 30,000 where the work ethic is said to be ingrained. Whereas half the families are involved in manufacturing, 8 very positive are employed in business or other blue collar jobs. 30 percent are employed in sales, clerical, technical, or skilled occupations, and 12 percent are in professional or managerial jobs. Approximately 10 percent receive public assistance.

The entire school system is participating in the [illegible] project. There are five elementary schools, one junior high school, and one high school. There are no vocational schools in the district that serve approximately [illegible] students. Seventy percent of the student body are white and 20 percent are black.

The community relations program is typically small town. Schools have had generally good support because they build on personal contacts with community leaders and leaders in the community tend to identify with school system personnel. There is a good relationship established with the local press and the community values clubs.

Site F

The work site consists of schools located within three of the school areas of a large metropolitan city. The [illegible] project schools consist of nineteen elementary schools, two junior high schools, and four high schools. Of the 19,000 students served by the [illegible] project schools, 80 percent are black and approximately 20 percent are white.

Almost one-third of the families hold factory or blue collar jobs. 8 the percent occupy sales, clerical, technical, or skill ed jobs, and 10 percent are in professional or managerial positions.

The site team found a potential there was some evidence of a serious racial issue at the time was. Additional schools were added to the project for racial balance.

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the project. The opportunities for personality conflicts and overlap of responsibilities were great. Many requests were made to CVE to clarify the domain of the site team director and the LEA project director. This problem generated great concern in one site where the LEA project director was named at the last minute to head the LEA project team. Interest in the project was affected by the other responsibilities assigned to this person by the LEA. One site team director reported, "There are at least three of the site team directors who are experiencing serious degrees of frustration in the playing of their roles of liaison between LEA sites and CVE. Reasons for this range from rather routine operational problems to serious individual philosophical differences."

The differences that existed between some of the site team directors and LEA project directors were accented by (1) the distance between the Columbus-based CVE organization and the local education agencies, and (2) the desire for autonomy experienced by professionals accountable to local publics. In some cases, the CCEM project was only one of several federally funded programs ongoing in the school district. The site team directors experienced all of the problems associated with the knowledge linker roles identified by Havelock (1969, p. 7–8): marginality, serving two masters, knowing the needs, over-isolation, and structural redundancy. The physical proximity of the site team director, who filled a temporary position, made it easy for him to identify with local priorities. The members of the CVE site team were perceived as "members of the team" in the LEA site. On the other hand, time and money tended to limit the amount of coordination that could take place between Columbus and the field sites. Site team members were expected to function on-site; they were to use the telephone and the mail for coordination purposes. The mail resulted in time delays and the system of documentation for phone conversation became burdensome. The dynamic time lines and changes in responsibilities for positions in Columbus and at LEAs made it difficult to always direct a question to the appropriate individual.

Operationalizing the responsibilities of the LEAs presented difficult coordination problems. The diversity of influences on the LEA made each site unique. For example, state law at one site prohibited administering attitude inventories with socioeconomic indicators to students or community members. Personnel at another site did administer the instrument to a select group of students whose parents gave permission even though they had objections to some of the questions. The variations in site settings mentioned in Chapter I indicate great differences among the LEAs. Some LEA project directors had to clear actions through several more layers of bureaucracy than others. Implementing the CCEM project seemed to run into greatest difficulty whenever teachers were needed. Project activities ran into some difficulties in one site when the superintendent and his assistant both opposed taking teachers from classes for twenty days to work on the matrix committee. This situation was corrected when two groups of ten teachers were rotated for the required time. Special arrangements had to be established at another site for teacher involvement. During teacher negotiations an addendum to the teacher's contract was necessary calling for two weeks' time for training prior to implementing CCEM.

These comments highlight the need to define role responsibilities of the contracting agencies at the time the agreement is made. Obviously, every detail cannot be anticipated, but an understanding of the functions to be performed by the agencies and staffs which support a temporary system is essential.

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Technical Assistance

The technical assistance provided by CVE to the LEAs and vice versa was limited by the nature and scope of the staff roles in the temporary system. Flexibility in operating procedures was allowed by CVE on sites. For example, in-service education programs for teachers using the curriculum units varied from site to site. Always, the sites were constrained by lack of lead time and money. Witness the comment of one site team director, "[There is a] need for careful training of staff, but we haven't time, maybe it's too little expertise." The sites were treated differently by CVE in the amount and scope of work allowed in additional subcontracts. This allowed sites with unique expertise to make additional contributions to the CCEM project.

Reports on the quality of consultation provided to the sites by temporary systems staff personnel and others varied. One site reported their workshop consultants thus far had not been very good, while others felt the consultants had done a fine job.

Generally, the LEA sites responded very well to the need for physical space and other resources required by the temporary systems team. Nothing appeared in documentation which expressed a dissatisfaction with the facilities that were provided. An entire elementary school facility was allocated to the CCEM project by one school district. Equipment appeared to be a greater problem than housing. At least one site team director felt his sense of urgency was not shared by LEA colleagues.

The short time frame for the CCEM project caused problems in staffing and planning. Frequently temporary systems teams started negotiated scopes of work without having all positions filled. Plans had to be made for activities to be conducted within unrealistic time frames. The following comment is from site personnel: "We have found it impossible to project a time schedule that would appear to be reasonable. I personally continue to have problems by deadlines. Everyone sets them, but most seem to be unreal and most are not met. The result is they tend to be ignored." Not infrequently, missing the time deadline placed project activities out-of-phase with school year schedules. Part of the problem seemed to be caused by the slowness in the mail delivery system. CVE requested a form from one site which claimed it had been sent two weeks prior to the request. Allocations for September were on the form and were desperately needed. Another incident reported units mailed from CVE had not reached the LEA in seven days.

Endorsement by School Officials

Throughout the CCEM project, school officials exhibited commitment to the success of the project. This was particularly true of interactions they had with community groups. One site team director reported the "Board of Education is solidly in favor of career education." Most of the sites developed first-class materials for use as public information. The sites developed a tape presentation on career education, career education expositions, brochures, newspaper and journal articles, and a film on career education.

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Commitment to the CCEM project extended to other agencies in many of the states. State funds were channeled into the project sites for such prescribed activities as evaluation, job placement, computer assisted guidance, and teacher education. This additional state funding varied among sites, with one receiving as much as $369,000. The State Department staff was reported to be helpful to one site in gaining significant theoretical knowledge of elementary grade "exploration" potential. Colleges and universities within the six states were instrumental in developing and teaching courses in career education. At the end of a two-week course in one state university, there was an interest expressed to be involved in future activities relating to career education.

Summary

The complexity of the innovation being developed by CVE and the diversity of staff and community settings present among the LEAs presented a rather formidable challenge to the temporary system designed to develop the curriculum units. The site settings varied from one where a strong work ethic brought about cooperation to another site that has been described as highly volatile, cannot be manipulated, and required a "hard sell job." Career Education deals with underlying educational and social issues frequently involving questions of values. This tended to encourage various exhibitions of resistance or cooperation by representative groups of varying persuasions. Communication, always a problem in large bureaucratic organizations, was difficult due to the unrealistic time deadlines and the complexity of the tasks to be completed.

On the other hand, support for career education was evident in each of the LEAs and their communities. Resistance to project activities could usually be traced to short time frames, miscommunication, or pressing work loads. Staff, facilities, supplies, and equipment were generally adequate at most sites. Funding arrangements sometimes presented problems whenever there were delays in planning, budgeting, and allocating funds.

Agencies planning linking strategies for bringing about the utilization of curriculum units should be advised of the need for strict role definition and follow-up supervision to "make the system work." When activities are not completed on schedule, supervisors need to determine "probable cause" and remedy the situation as soon as possible. Technical assistance with specialized tasks such as evaluation or in-service education can be very beneficial to a project, but it must be administered judiciously after positive interpersonal relations have been established among team members and between linking agencies. There is always a need for endorsement of project activities by school officials.

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CHAPTER IV

TRANSPORTABILITY OF CURRICULUM UNITS

Characteristics of Respondents and Curriculum Units

Any director of a nationwide project to develop curriculum units must be sensitive to the ability of those units to be used by teachers and others under varying conditions. Constraints such as time, teacher knowledge of the subject, and funds to supplement the units with student experiences outside of the classroom are examples of constraints that sometimes limit the effectiveness of developed curriculum units.

This study of the CCEM curriculum units was limited to the forty-five units that were field tested during 1972-1973. This field test included approximately thirty classrooms for each of the forty-five units. The classrooms were scattered throughout seven local education agencies. Six of the seven agencies were involved in the development of the units, but no teacher involved in the development of a unit was asked to field test the same unit. The seventh LEA was secured to complete the requirements for the evaluation design. The teachers came from a variety of backgrounds. Tables 1 and 2 describe the demographic characteristics of the teachers who taught the units and responded to the field test evaluation instrument. Most of the teachers were white females with a bachelor's degree and less than three years of teaching experience. Females outnumbered males by a ratio of 3.8 to 1. Blacks accounted for most of the persons of minority races. A few American Indians, Mexican-Americans, and Orientals were represented. Table A-1 in Appendix A illustrates the distribution of the teachers among local education agencies. In no instance were the field tests of a unit equally distributed among the local education agencies. The local education agency and the curriculum units are not identified by name in an effort to maintain the anonymity of respondents.[19]

The original intent of the CCEM project was to provide a "capstone" to career development activities already in progress among the local education agencies selected to participate in this curriculum development activity. As the project progressed, the need for new curriculum materials became evident. This need is observable in Table 4 which shows a distribution of the curriculum units by grade levels and elements of the career education matrix. Additional units, beyond the forty-five, were developed but this report is limited to the first forty-five units developed by the CCEM project. Actually, only forty-one units were studied due to two problems: (1) a preliminary version of the

[19]Additional information for each unit can be obtained from the field trial report produced by The Institute for Educational Development, 52 Vanderbilt Avenue., New York, NY.

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Table 1

Distribution of Respondents
by Sex and Race

Race	Sex		Total
	Female	Male	
White	477	159	636
Black and Other[a]	284	55	339
TOTAL	761	194	955

[a]Twenty-nine respondents failed to indicate sex.

Table 2

Distribution of Respondents by Education Level
and Years of Teaching Experience[a]

Years of Teaching Experience	Education Level			Total
	Bachelor's Degree or Below	Master's Degree	Doctor's Degree or Above	
Less than 1	175	2	–	177
1 2	237	2	4	243
3 5	162	30	4	196
6 10	113	35	3	151
11 15	48	27	1	76
15 or more	41	46	8	95
TOTAL	776	142	20	938

[a]Forty-six persons failed to indicate years of teaching experience.

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Table 3

List of Curriculum Units by Title

Number	Title
C-3	A Study of Forestry and Related Careers
C-4	Careers in Technology
C-6A	How are Grocery Cards Created?
C-23A	Preparing for Career Decisions
C-26	Introduction to Measurement
C-27	Watching and Wondering
C-29	Basic Measurement and Related Careers
C-29	Just Me
C-33	Length and Area: Concepts, Skills, Tools and Workers
C-34	Volume Measurement and Its Application to Work
C-36	Your Attitude is Showing
C-39	Social and Biological Awareness and Development During Adolescence
C-45	Understanding Self
C-51-1	Developing Locomotor Skills
C-51-2	Physical Fitness Preparation for the World of Work
C-52	Making Toys Through Teamwork
C-53-1	Here We Go Around the Discovery Course: Developing Psychomotor Skills
C-53-2	Interpretive Movement
C-54	Economic Education Grade 2
C-57	Economic Education Grade 3
C-59	Careers in Art
C-61	Career Exploration in the Life Sciences
C-62	Career Exploration in the Earth Sciences
C-63	Career Exploration in the Physical Sciences
C-64	Your Health and Your Jobs
C-69	Child Development
C-73A	Career Exploration: Education Cluster
C-75	Economic Education Grade 1
*C-76	Becoming Aware of Needs and Responsibilities
C-77	Exploring the World of Work
C-78	Attitudes and Task Completion
C-79	School Skills: Now and Later
C-84	Career Education through Industrial Arts
C-85	Career Exploration through Mathematics
C-86	Math and the Economy
C-87	Money Management
C-93	Workers Around Us
C-94	Activities, Roles and Occupations
C-95	The Service Station
C-96	Community Workers
C-99	The Supermarket

*Unit not placed in Career Education Elements Matrix.

Career Education curriculum unit titles and placement in Career Education Elements Matrix taken from: "Career Education Curriculum Materials, Preliminary Products List." Columbus: The Center for Vocational Education, The Ohio State University. August 30, 1973.

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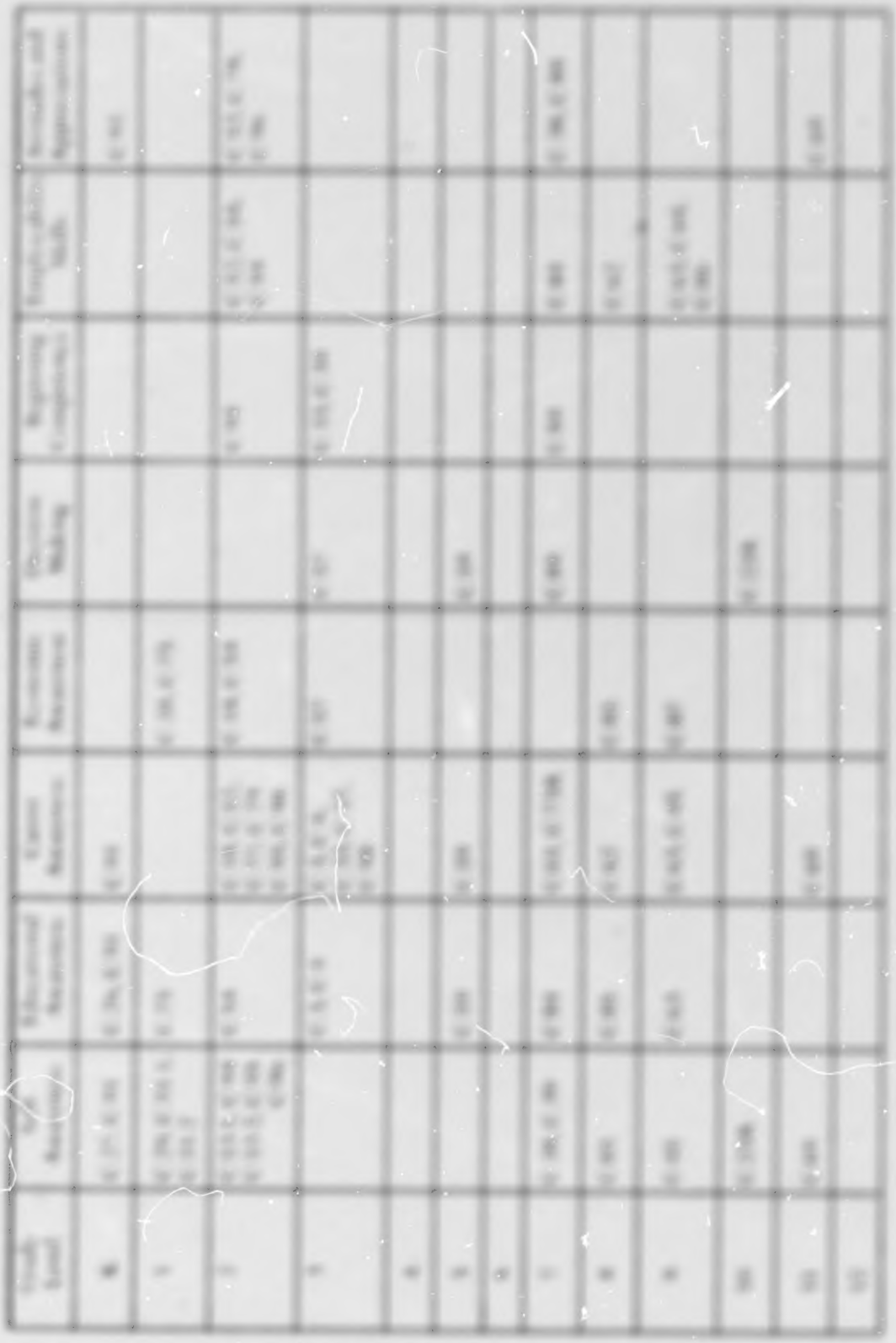

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Table 2

Factor Loadings for Housing Demographic Variables,
and Z-scores for Clusters of the Consolidated Index[a]

Variables	Affluence Level	Race	Sex	Value of Housing
Affluence level				
Race	.674			
Sex	.671	.000		
Value of housing	.677	.000	.000	
Number of persons	.000	.000	.677	.000

[illegible]

Table 3

Percentage of Americans in Various Occupations
of Consolidated Index Displayed by Demographic Variables

Variable / Subject	Blue-Collar %	Professional, Private or Government	White-Collar %
Affluence level	.000	14.37	85.000
Race	.000	14.00	0.000
Sex	.000	14.00	0.000

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CHAPTER V

FINDINGS, IMPLICATIONS, AND RECOMMENDATIONS

The emergence of career education as a viable theme for reconstituting school curriculums resulted in many diverse and varied activities to create career education curriculum units. Not the least of these activities was the school-based model sponsored by the National Institute of Education and developed by The Center for Vocational Education. This model developed 135 curriculum units; the first forty-five of these were field tested. Forty-one of these units formed the focus for this research.

Examined in this report were the following diffusion-related variables: the use of a temporary system as a device for linking a prime contractor with local education agencies, and the acceptance of the curriculum units by teachers in the field test sites. Several independent variables were related to the teacher acceptance of the curriculum units: (1) teacher demographics of race, sex, education level, and years in teaching; (2) the degree of curriculum unit revision; (3) the location of the unit development site; (4) the infusibility of the concepts and the units; and (5) the perceived effect of teaching the unit on teacher interaction with the class and the community-at-large.

This study was ex post facto in nature. The data came from documentary records, evaluation reports, and teacher responses to the field test questionnaire. Critical incidents were recorded from telephone memos, correspondence, and other sources to describe the processes used to link CVE with the cooperating LEAs. No data were collected by the diffusion researchers themselves; all information came from secondary sources. Informal conversations were held with the school-based model staff. Questions on diffusion considerations were submitted to the external evaluator. Several were used in the final evaluation instrument. These questions formed the basis for analyses of the teacher acceptance of the curriculum units.

Findings

1. Role definition and maintenance are major factors influencing the success of a temporary system as a device for linking educational organizations.

2. Technical assistance to educational organizations in the process of developing, revising, and installing curriculum units should be flexible and adaptable to local conditions.

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3. The expressed endorsement of the curriculum development activities by influentials within the development site is essential to the success of the project.

4. Education level explained a greater proportion of the variation in teacher acceptance of the curriculum units than race, sex, or years of teaching experience; the higher the education level, the lower the level of acceptance.

5. Blacks and other minorities had a slightly higher level of acceptance of the curriculum units than whites.

6. Females had a slightly higher level of acceptance of the curriculum units than males.

7. Years in teaching did not explain a significant amount of variation in teacher acceptance of the curriculum units when compared with education level, race, or sex.

8. The amount of revision required in the curriculum unit appeared not to influence teacher acceptance of the units.

9. Curriculum units field tested within local education agencies sites where they were developed received slightly higher ratings on teacher acceptance than the same units when they were field tested in non-development sites.

10. The teachers believed the concepts would fit easily into their regular classroom program.

11. The units were perceived by most of the teachers to integrate well into their curriculum.

12. Almost half of the teachers indicated the units could have been effectively taught without any unit-specific in-service training.

13. Interaction among the teacher, the classes, and the community was enhanced slightly by the teaching of the curriculum units.

Implications

1. Persons advocating use of the curriculum units should expect various exhibitions of organized resistance by representative groups of varying persuasions.

2. Position descriptions among members of the temporary system installation teams should be carefully written to assure the delegation of authority commensurate with responsibilities.

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3. Project officers should maintain surveillance and sensitivity to inter-personal relationships among members of the linking organizations and the client system and the resource system.

4. Incremental decision-making will be required to cope with unanticipated changes in product installation requirements.

5. Endorsement of curriculum development activities from influentials in the developing agency must occur periodically.

6. Teachers with more formal education tend to be somewhat more skeptical and less accepting of innovative curriculum units than teachers with less formal education.

7. Blacks, females, and other minorities should pose no special problems for the installation of curriculum units.

8. Apparently respondents in local education agencies where the unit was developed felt a sense of ownership that influenced the acceptability of the units.

9. The units were perceived to be relatively free of bias and the need for unit-specific in-service education; they are relatively transportable and infusable into regular classroom programs and curriculums.

Recommendations

1. Organizations contracting to develop or install educational products such as curriculum units should specify the obligations of linking agencies such as temporary systems in as much detail as possible at the time of the agreement.

2. A monitoring system should be developed to obtain feedback on the activities of linking agents to assure effective utilization of staff time and resources.

3. Whenever curriculum units are developed for national distribution by local education agencies' personnel, the personnel and sites should be somewhat representative of the national target population for that unit.

4. Teacher selection for adopting innovative educational products should be based on interest in the product or variables other than race, sex, formal education, or experience in teaching.

5. The installation of educational products into a local education agency should provide an opportunity for teachers and others to develop and/or adapt the product to local conditions.

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APPENDIX A

Statistical Tables

A-1 Number of Teachers Responding to the Questionnaire by Unit and Field Test Site

A-2 Alpha Level for the Teacher Acceptance Variable by Curriculum Unit

A-3 Statistics Associated with Variables in the Regression Equation

A-4 Multiple Regression Equation

A-5 Analysis of Variance of Teacher Acceptance Means by Degrees of Revision of the Units

A-6 Analysis of Variance of Teacher Acceptance Mean Scores by Location of Development Sites

A-7 Probabilities associated with Chi Square values by unit for the question "Do you feel that the concepts and the related learning activities presented in this unit would easily fit into your regular classroom program?"

A-8 Probabilities associated with Chi Square values by unit for the question "How well do you think the content of this unit would normally integrate into your regular curriculum?"

A-9 Probabilities associated with Chi Square values by unit for the question "Compared to the regular curriculum, how well did this unit enhance interaction between you and your class, and the community-at-large?"

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Table A.1

Number of Teachers Responding to the Questionnaire by Unit and Field Test Site

Curriculum Unit Number	Local Education Agency						
	1	2	3	4	5	6	7
1			9		3		8
2	5	9		8		8	
3		8		4	3	3	5
4	4	17		4			
5		10		5		4	
6			10		6		7
7			9	5	3	4	9
8			16		5		9
9		6	8	3	3	4	6
10			17		6		7
11	15			9		6	
12			9		3		8
13		4		4		4	
14		14		3		3	
15	11			5		4	
16	4	7		5		4	
17	9	3		4		4	
18		13		2		4	
19	6	7		3		4	
20			11		3		6
21			11		3		6
22	13	5		2			
23	9	3		3		4	
24			11		3		6
25	6		6		2		6
26			9		3		8
27		11		5		4	
28	10	2		4		4	
29	12				1		7
30	13						7
31		6	8	3	3	4	6
32		6	8	4	2	4	6
33		7	7	4	3	4	5
34			10				
35		15		6		6	
36		14		8		8	
37		5	9	4	3	4	5
38		12		10		6	
39		6	8	2	2	4	6
40			15		6		9
41		5	9	5	3	4	5

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Table A-2

Alpha Level for the Teacher Acceptance
Variable by Curriculum Unit

Curriculum Unit Number	Alpha Level
01	.87
02	.89
03	.89
04	.86
05	.88
06	.88
07	.90
08	.85
09	.89
10	.91
11	.89
12	.93
13	.93
14	.83
15	.85
16	.86
17	.87
18	.92
19	.96
20	.87
21	.93
22	.87
23	.84
24	.84
25	.98
26	.87
27	.86
28	.97
29	.96
30	.90
31	.89
32	.89
33	.89
34	.82
35	.94
36	.85
37	.88
38	.87
39	.94
40	.90
41	.90

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Table 4.3

Statistics Associated with Variables
in the Regression Equation

Variable	Regression Coefficient	Standard Error	t
Educational Levels	.234	.035	6.664
Race	.178	.035	5.107
Sex	.098	.035	2.806

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Table [illegible]

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APPENDIX B

Questions used as a dependent measure of teacher acceptance of the curriculum units.

1. Overall, how would you rate the quality of this unit?

   a) Very good
   b) Good
   c) Average
   d) Poor
   e) Very poor

2. Would you recommend this unit to other teachers?

   a) Yes
   b) Yes, with reservations
   c) No

3. If possible, would you teach this unit to your students next year?

   a) Yes, with no modifications
   b) Yes, with minor modifications
   c) Yes, with major modifications
   d) No

4. Has teaching this unit changed your mind about the desirability and/or feasibility of introducing career education concepts to your students?

   a) Much more favorable
   b) More favorable
   c) No change of opinion
   d) Less favorable
   e) Much less favorable

5. In general, did teaching this unit cause you to: (Circle all that are appropriate)

   a) work with other teachers?
   b) become excited about career education?
   c) seek more information about career education?
   d) increase your knowledge of career education?

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APPENDIX C

Questions used to measure independent variables associated with teacher acceptance.

1. Do you feel that the concepts and the related learning activities presented in this unit would easily fit into your regular classroom program?

   a) Yes
   b) Somewhat
   c) No

2. How well do you think the content of this unit would normally integrate into your regular curriculum?

   a) Very well
   b) Well
   c) Somewhat
   d) Poorly
   e) Very poorly

3. Compared to the regular curriculum, how well did this unit enhance interaction between you and your class, and the community-at-large?

   a) Much better
   b) Better
   c) About the same
   d) Worse
   e) Much worse

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GLOSSARY

ACCEPTANCE	The use and approval of a product by an individual or organization. In this study teachers may not have felt completely free to reject the product (curriculum units) due to obligations incurred by the subcontracts. Therefore, the use of the term "acceptance" in this report projects an attitude of approval of the curriculum units.
ADOPTION	A decision to make full use of a new idea as the best course of action available. (Rogers and Shoemaker, 1971)
CO-OPTATION	A state in which one of two units is absorbed into the organizational structure and/or goals of the other.
CURRICULUM UNIT REVISION	This study used three levels of revision: minimum, moderate, and extensive. The rating for each unit was performed by the person responsible for the curriculum revision activities at CVE. The revision ratings were based on the extent of the changes in the units, the guidance provided for the learning activities, and the appropriateness of the evaluation procedures, among other criteria.
INFUSIBILITY	A quality of an educational product that allows it to penetrate a program or curriculum in a pervasive manner.
TRANSPORTABILITY	A quality of an educational product that allows it to be conveyed from one site to another with a minimum of loss of effectiveness.
TEMPORARY SYSTEM	A group of individual roles and organizational relationships that are established for a specified length of time to achieve a common goal(s). The school-based model used two teams of individuals as a temporary system linking CVE with the LEAs.

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